April 2012
900523-001
Rev 02

PhotoBooth Camera Kit - Installation and Alignment

Purpose
How to install, align and update a PhotoBooth Camera Kit

Expected time
45 minutes

Audience
- TouchTunes Virtuo Operators and technicians
- TouchTunes field service and customer support

This document is for these components or categories

☑	Software
☑	Hardware
☑	Mechanical
☐	Packaging

Overview

This document explains how to install, align and update a PhotoBooth Camera Kit.

NOTE: In order to optimize the camera's light balance for the PhotoBooth service, Virtuo must be running OpenStage 1.1.0 or later. If your Virtuo is not running this version or later, contact TouchTunes Technical Support at 847-353-1954.

Topics

- Required tools and equipment
- Important safety information
- Installing the PhotoBooth Camera Kit
- Aligning the PhotoBooth Camera
- Upgrading the PhotoBooth Camera Firmware
- Setting the PhotoBooth Camera's White Balance
- Contacting TouchTunes Technical Support

Required tools and equipment

- Measuring tape with a level
- Phillips head screwdriver, including bit size No. 1
- Medium strength thread locker, such as Loctite™
- Anti-static wrist band
- Nut driver or socket and ratchet set, including a 7mm socket
- Several sheets of white or light gray paper

Important safety information

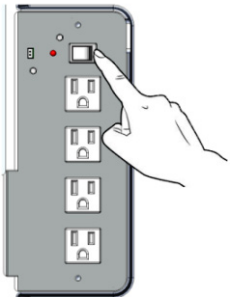
To avoid damaging the PhotoBooth camera, it is important to prevent exposure to static discharge during installation. TouchTunes strongly recommends you follow these guidelines during installation.

- Wear a grounded anti-static wrist strap, or work with one hand always touching a metal part of the metal chassis.
- Whenever possible, leave the camera laying on an anti-static bag or anti-static foam.
- Leave the Virtuo plugged into an AC outlet with the power switch turned OFF. Doing so places a ground on the metal chassis.

Installing the PhotoBooth Camera Kit

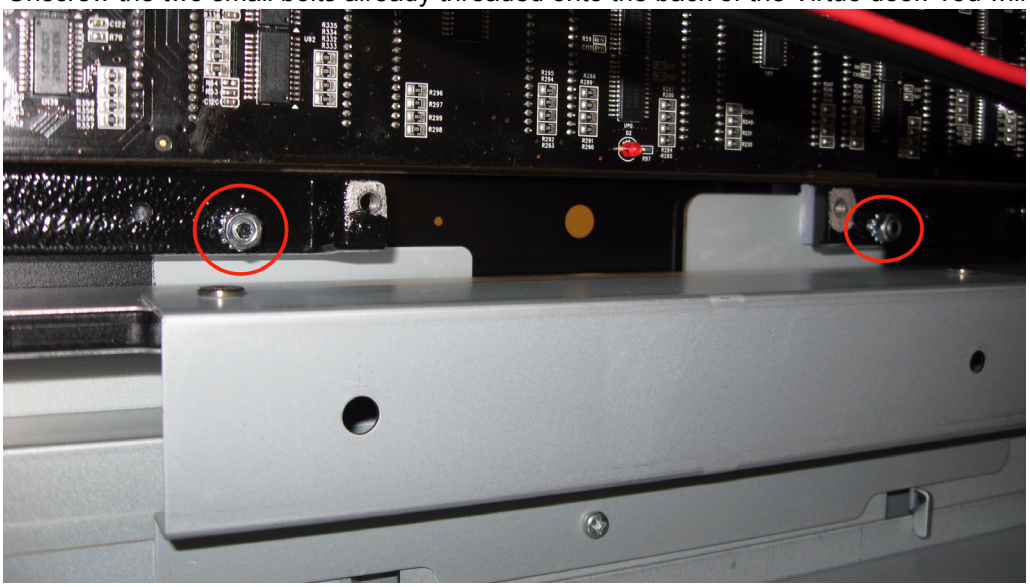
1. Power down the Virtuo by setting the rocker switch on the power strip inside the Virtuo to the **OFF** position.

   Leave the Virtuo plugged into an AC outlet with the power switch turned OFF. This grounds the metal chassis.

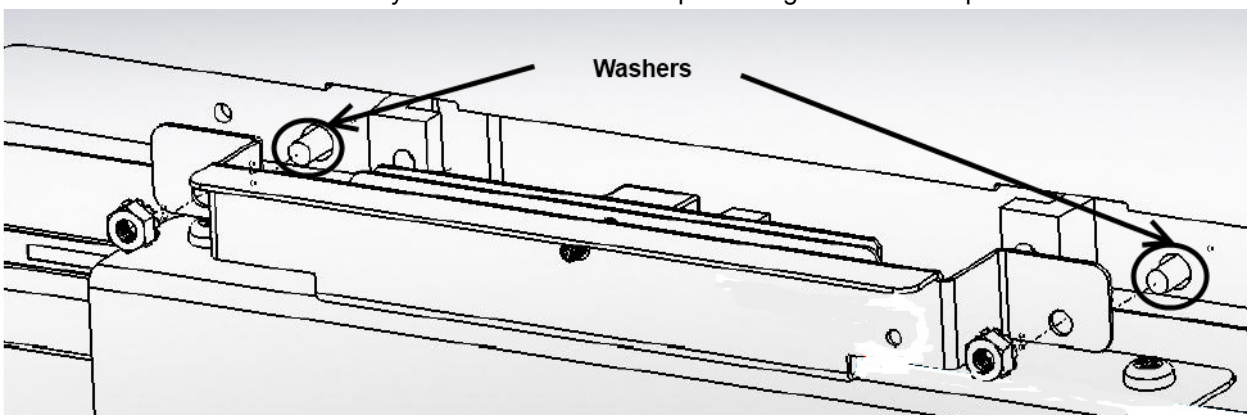


2. Note the small aperture on the front of the Virtuo where the PhotoBooth Camera will be installed and open the Virtuo door.

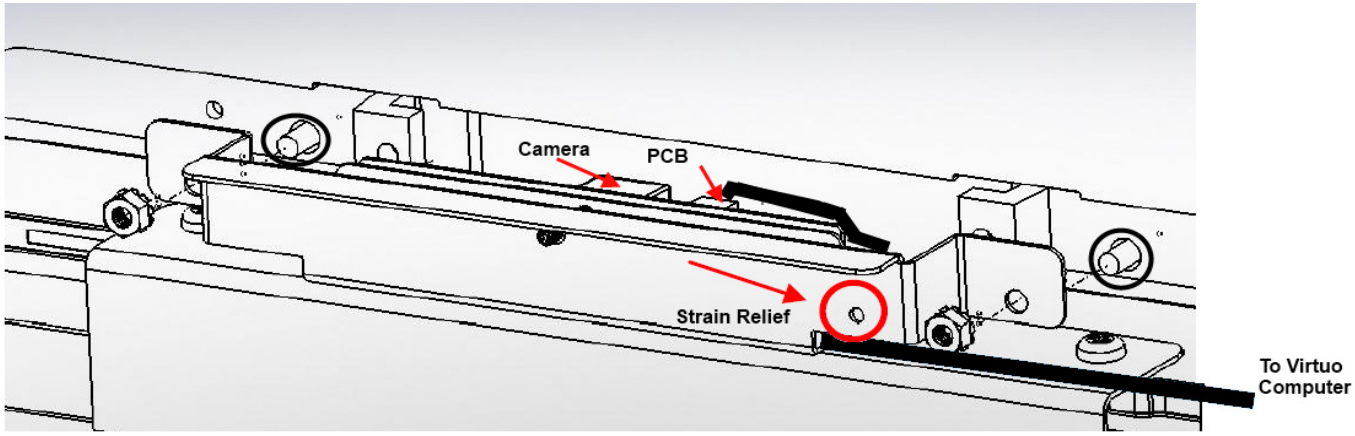
3. Unscrew the two small bolts already threaded onto the back of the Virtuo door. You will reuse these nuts momentarily.



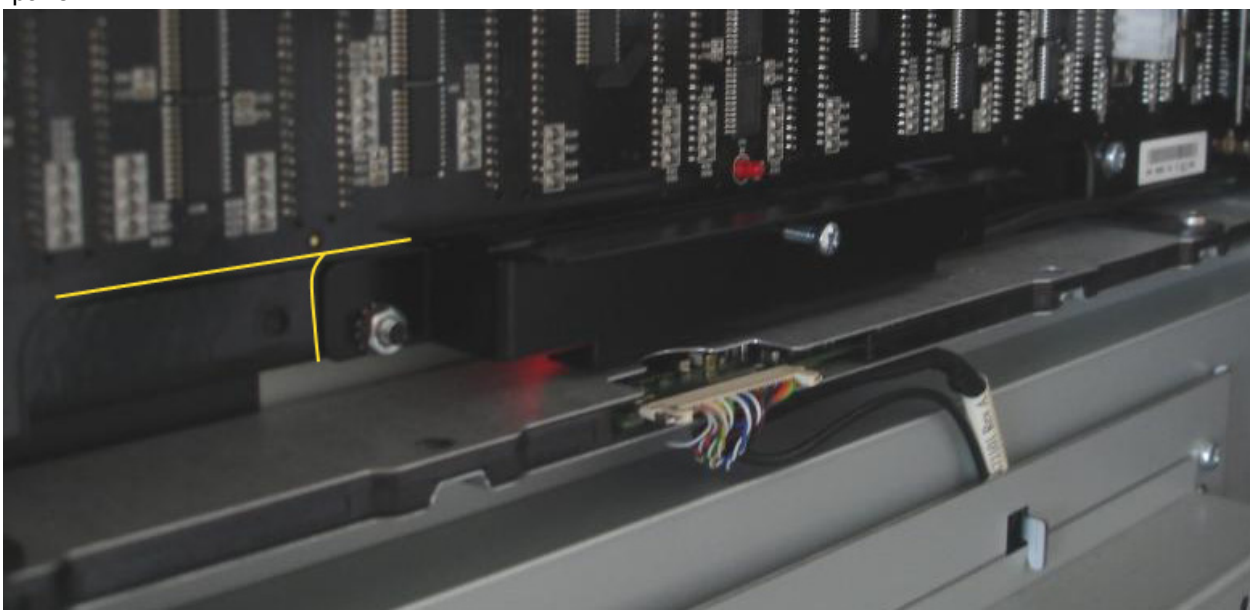
4. Remove the PhotoBooth Camera assembly (which consists of the camera already mounted on a bracket) from the packaging.
5. Place the washers included with your kit over the screws protruding from the rear panel of the monitor.



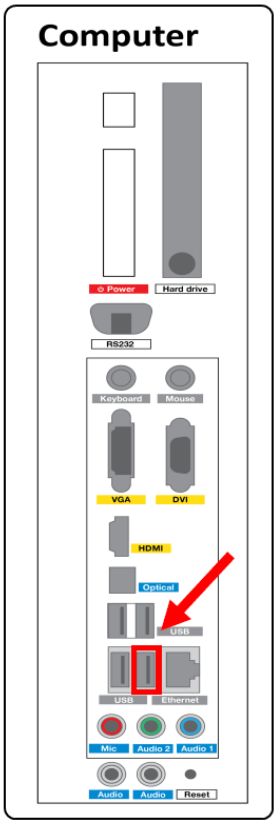
6. Mount the camera assembly to the rear panel of the monitor, ensuring proper orientation (as in the diagram below, the small PCB cable should be to the right of the PhotoBooth camera).



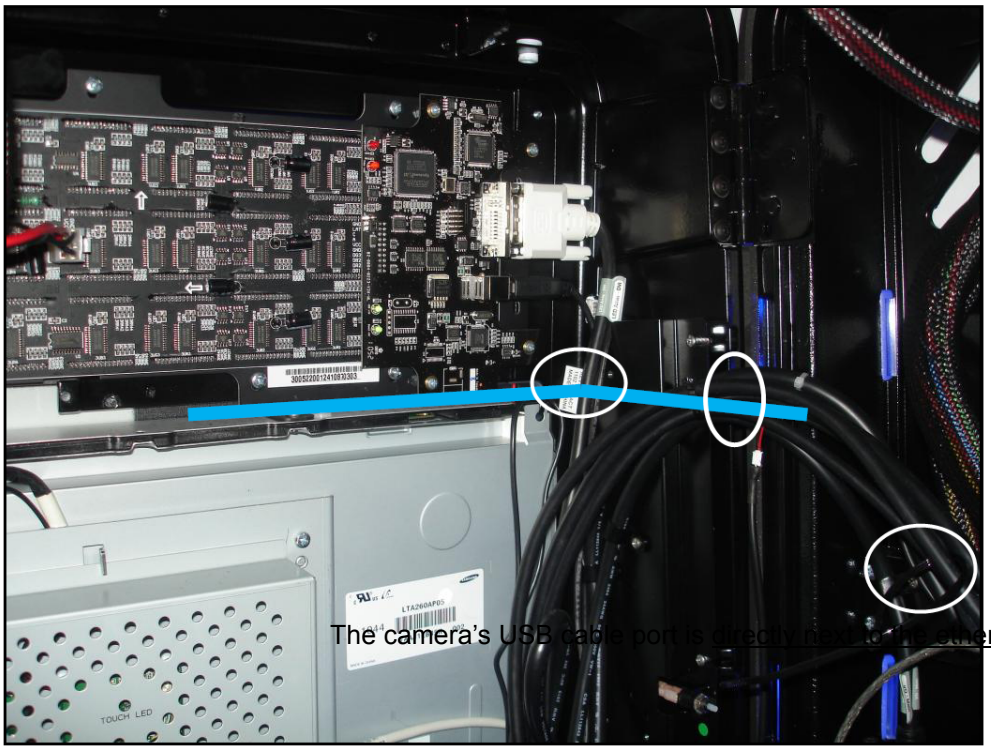
7. Fasten the PhotoBooth camera assembly to the rear panel of the monitor with the two nuts removed in step 3, applying 10 lbf-in of torque. As you tighten the bolts, ensure that the top of the camera's bracket is flush with the top of the rear panel.



8. Connect the camera's USB cable to the USB port shown below on the Virtuo computer.The PhotoBooth camera USB port on the Virtuo computer is next to the Ethernet port.



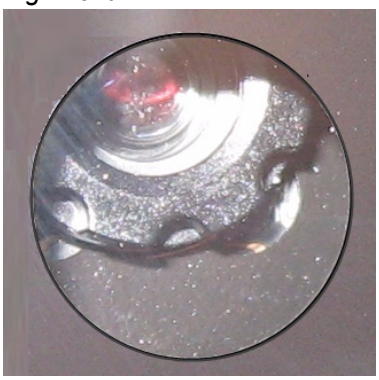
9. Use the three 8-inch zip ties supplied with the PhotoBooth Camera Kit to fasten the USB cable to the existing bundle of wires.



The camera's USB cable port is directly next to the Ethernet port.

10. Restore AC power to the Virtuo and boot it up.
11. Press the **PWR** button on the IO board to turn the touchscreen on as well.

NOTE: Since you have not yet aligned the camera, it is normal and expected that the camera lens does not line up with the circular aperture on the outside of the Virtuo door. Centering the lens is part of the next step of the installation, *PhotoBooth Camera Alignment*.



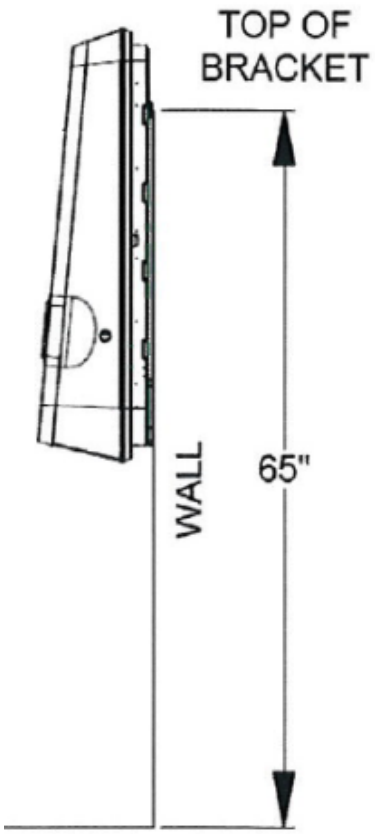
Aligning the PhotoBooth Camera

1. Before you proceed with the PhotoBooth camera calibration, it is critical that the Virtuo be mounted at the correct height (a Virtuo mounted on a Virtuo Floor Stand will automatically be mounted at the correct height).

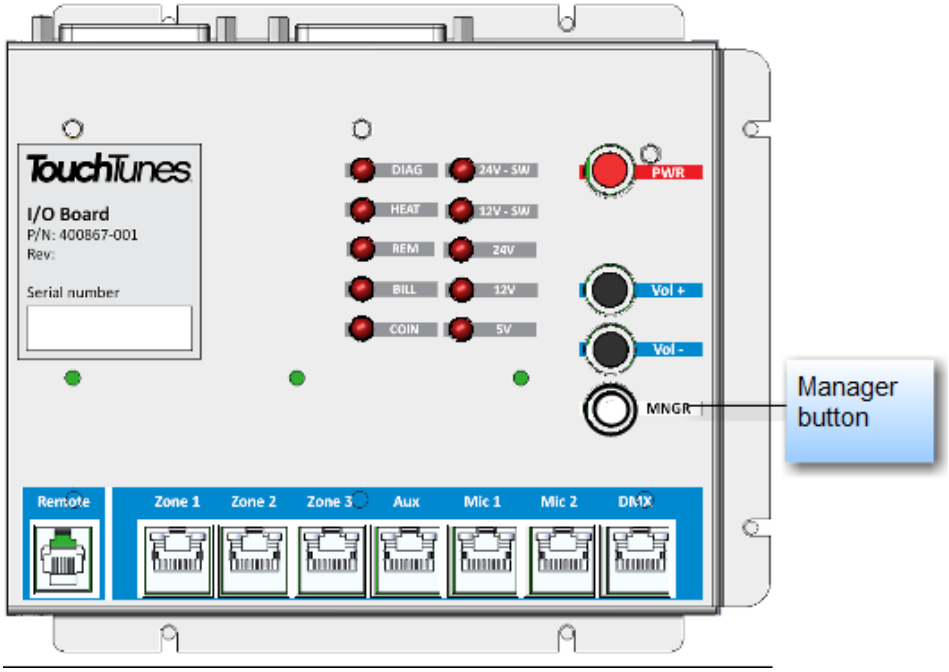
   The top the Virtuo bracket should be **65 inches** from the floor.

   The correct height is necessary to avoid damage to the bracket and to achieve the correct calibration.

   If your Virtuo is *not* mounted at this height, consult the latest version of the ***Virtuo Installation & Setup Guide (900475-001)*** on the Operator Dashboard for mounting instructions.



2. To properly align the PhotoBooth camera, you must use the Video Capture Test utility on the Operator menu. On the I/O board, press the **Manager** button to activate the **Operator Menu**.



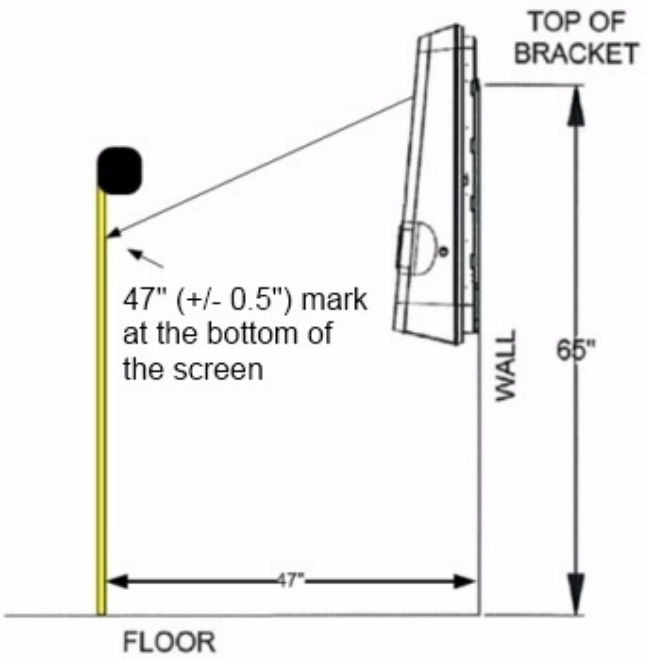
3. From the **Main** menu, select **HARDWARE** and press the **Camera** button. The preview area displays the field of view being captured by the camera.

NOTE: If any corners of the onscreen image are obscured by “tunnel vision”, as in the following example, remove the washers you mounted on the rear of the Virtuo door prior to mounting the bracket in Installing the PhotoBooth Camera Bracket - Step 6.

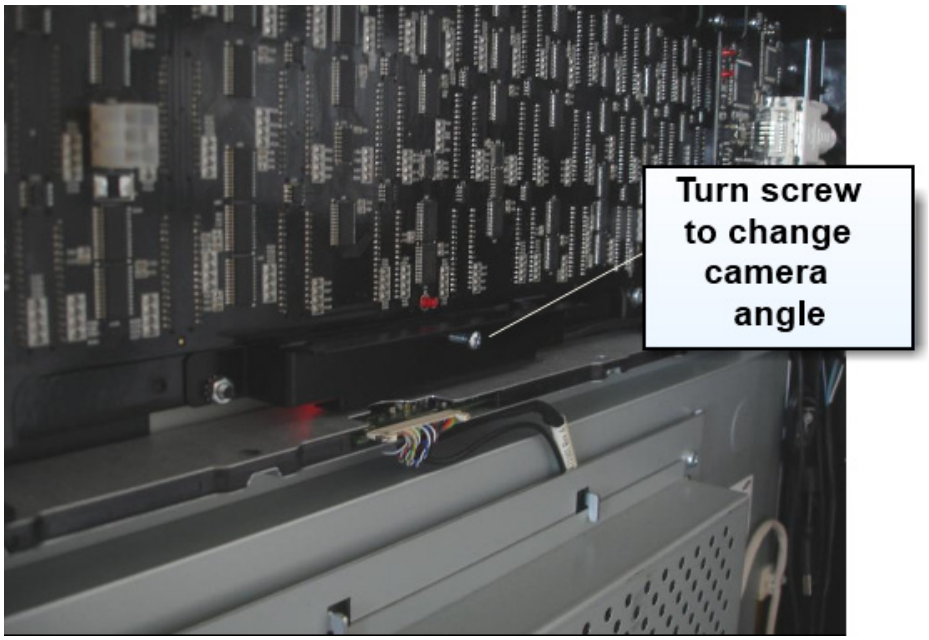
4. Put a mark on the floor 47 inches away from the wall (plus or minus half an inch), centered with the Virtuo.

5. Using a tape measure, measure the distance from the floor mark to the bottom of the camera field of view.

   Using the level, keep the measuring tape vertical in both orientations as much as possible. A small angle off the vertical can have a large impact on the calibration process.

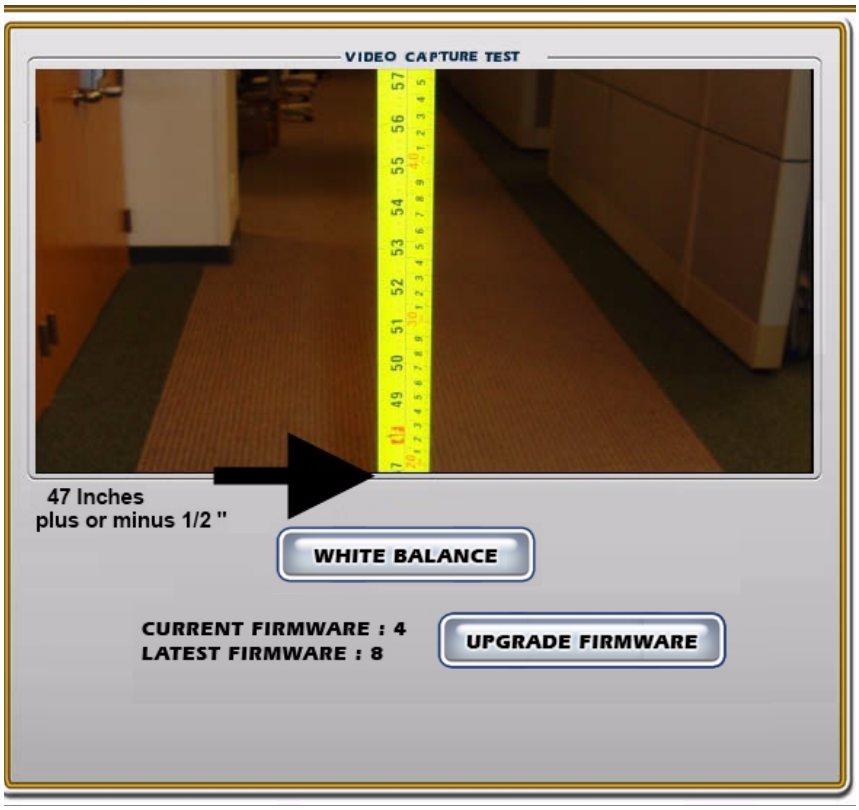


6. Turn the set screw (M3x16 Phillips Pan) clockwise on the rear of the bracket until you see the 47 inch mark from the floor (plus or minus half an inch) at the bottom of the preview area.

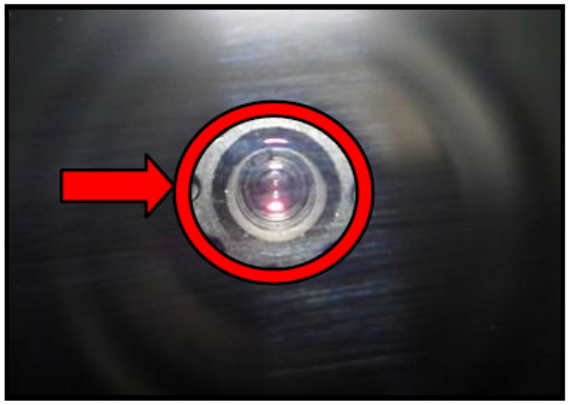


Turning this screw bends a small metal plate which may not rebound if you pass the 47-inch mark and bend it excessively.

Therefore, turn the set screw no more than half turn at a time, then check the Preview screen. Do not use a motorized screwdriver.



Note: The camera lens and the aperture on the exterior of the Virtuo door should align more and more as you adjust the camera screw using the method above.



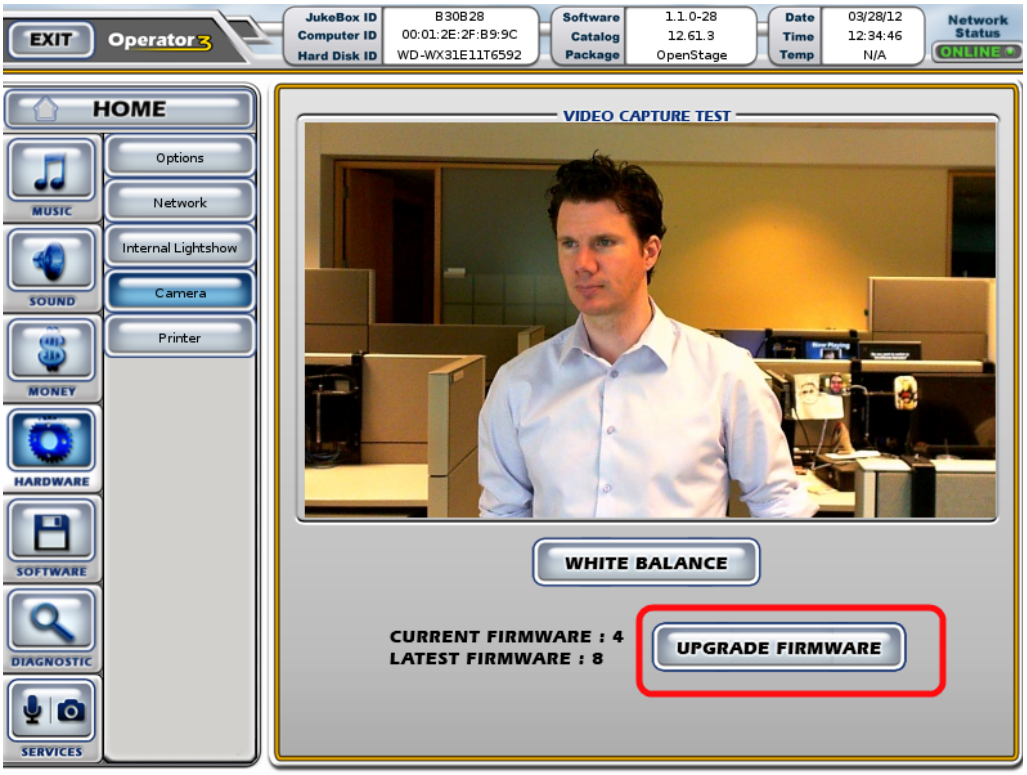
7. When you are satisfied with the settings, apply a small amount of medium strength thread locker, such as Loctite™, to the screw threads.

Upgrading the PhotoBooth Camera Firmware

With the PhotoBooth camera installed and aligned, it is important to ensure it is equipped with the latest firmware update.

- If a PhotoBooth camera firmware is available for your camera, the UPGRADE FIRMWARE button will be available.
- If the PhotoBooth camera is running the latest firmware version, the UPGRADE FIRMWARE button will be grayed out.

To upgrade the firmware, touch the **UPGRADE FIRMWARE** button and follow the onscreen instructions (you will be instructed to unplug the camera from the Virtuo USB port, then instructed to plug it back in).



In this example, a camera firmware upgrade is available

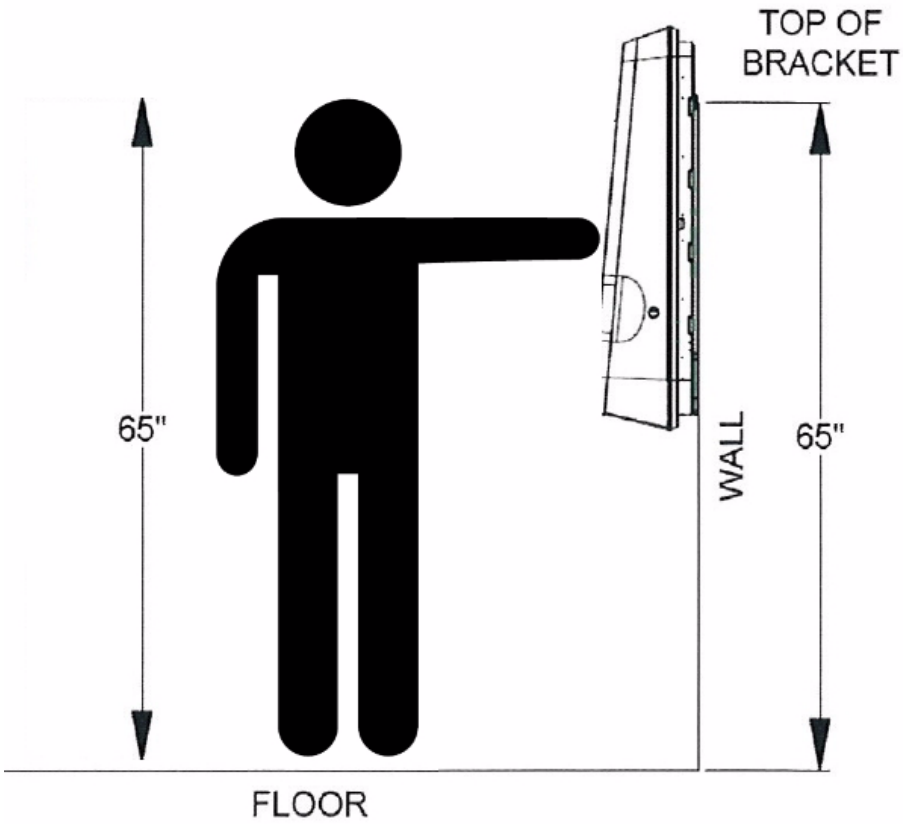
Setting the PhotoBooth Camera's White Balance

NOTE: In order to optimize the camera's light balance for the PhotoBooth service, Virtuo must be running OpenStage 1.1.0 or later. If your Virtuo is not running this version or later, contact TouchTunes Technical Support at 847-353-1954.

Now that you have installed, aligned and updated the PhotoBooth camera's firmware, you must set the camera's white balance to optimize the coloration of its images.

NOTE: If the location generally operates under low-lighting conditions, it is essential to replicate these lighting conditions when performing the white balance procedure.

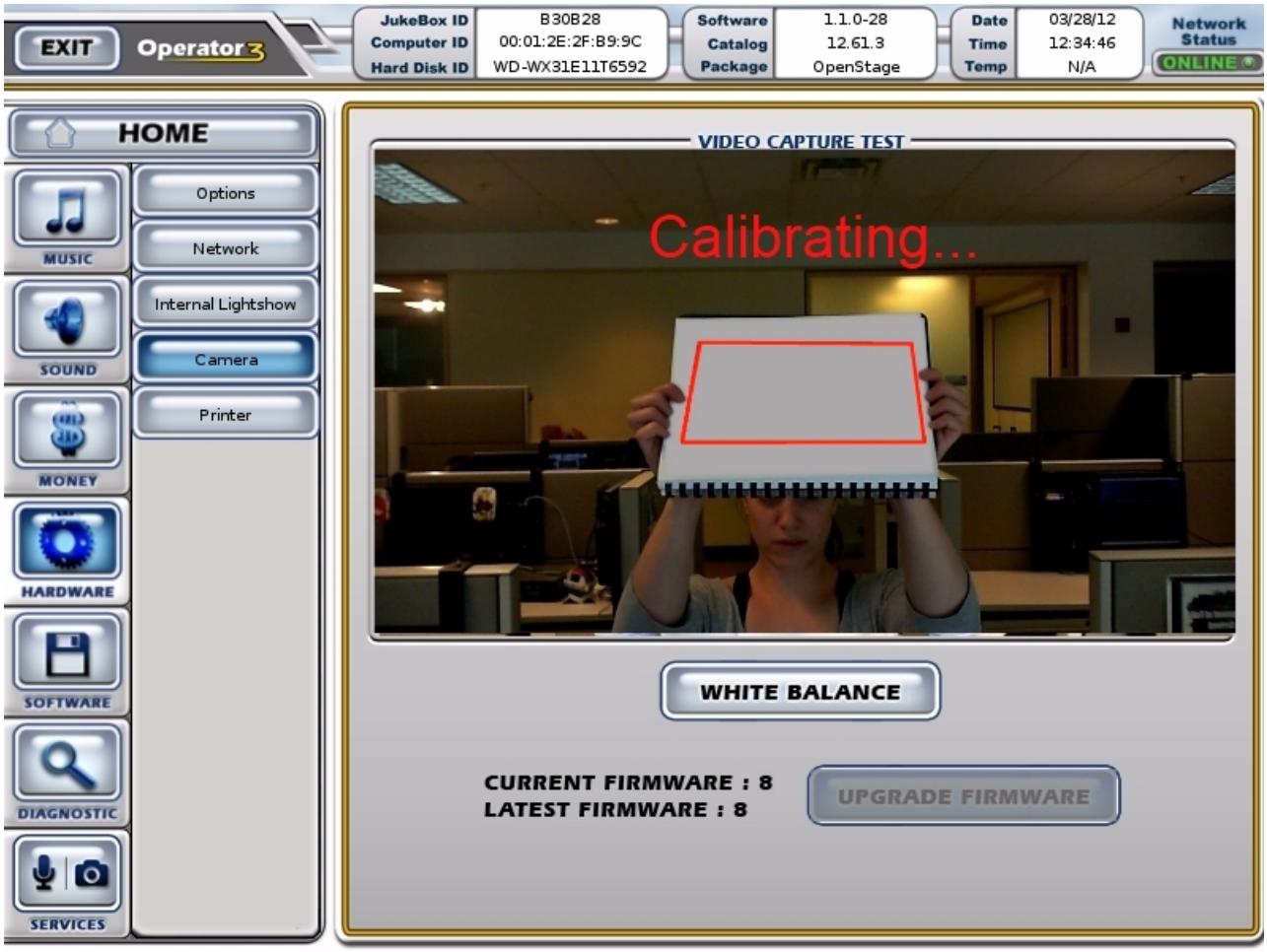
1. Stand at arm's length from the Virtuo screen. This simulates the optimal distance a customer's face would be positioned from the camera.



2. From the Operator Menu, press the **WHITE BALANCE** button.
   The Preview screen will display a red square.

3. Hold up a stack of white or light gray paper and position it at a 45 degree angle backwards (that is, tilting the top towards yourself). Do not use a single sheet of white paper as it may be translucent.

   The entirety of the red square should be filled onscreen by your sheet and you should be reflecting the ceiling light towards the camera.



4. You will be prompted onscreen as necessary until the calibration is completed
5. The white balance process will take approximately 5 seconds. Try to keep the sheet as still as possible during this time.

NOTE: If the lighting of the location changes significantly and permanently, you should reset the white balance as part of your routine when visiting the location.

Contacting TouchTunes Technical Support

If you need help with or have questions about this document, contact TouchTunes by:

- using the e-mail links on the Contacts page on the TouchTunes Dashboard at https://operator.touchtunes.com
- calling TouchTunes 24/7 Service Hotline at 847-353-1954

To help us assist you more effectively with problem reports, this information may be required when contacting TouchTunes Support:

- Jukebox model, such as Virtuo, Allegro MX-1, Ovation, Maestro II
- Jukebox ID
- the serial number of any component you believe to be defective
- the date/time of the problem
- actions performed immediately before the problem occurred
- any additional comments

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